

**Remarks**

The Applicants acknowledge the rejection of Claims 1, 3, 5, 6 and 10 – 16 under 35 U.S.C. §112, first paragraph, for the variety of reasons set forth in the Official Action spanning pages 2 and 3.

A number of the above-mentioned rejections allege a lack of support for certain subject matter in various of the claims. The Applicants respectfully submit that support is present in the Specification as originally filed at the locations set forth below in detail.

With respect to Claim 1 and the language “from 5 to 80% by weight of”, the Applicants invite the Examiner’s attention to the last three lines of page 11 of the Specification, wherein it specifically states that the benzene content of the aromatic hydrocarbon material may fall generally between 5 and 80% by weight. Support is literally present.

With respect to the “more than 10% by weight” objection, the Applicants have amended Claim 1 to recite “at least 1% by weight.” Support may be found on page 8 of the Specification at lines 3 – 5. That text recites that the crude material has a non-aromatic compound content of at least 1% by weight. Again, support is literally present.

With respect to the “to convert at least a portion” language, this is inherently present in Claim 1 as it was originally filed. Claim 1 originally recited diminishing the benzene content and converting the starting material into C7 or C8 aromatic hydrocarbons. Diminishing means reducing, but not eliminating. Therefore, it would be more accurate to recite converting at least a portion of the refined starting material as opposed to converting all. Having Claim 1 worded in any other way would not make sense.

The Applicants acknowledge the rejection of Claim 3 with respect to “reducing benzene content and C9 content to increase the contents of xylene and toluene in the product.” Support may literally be found at page 12 of the Specification in the last paragraph. Claim 3 has been amended in accordance with the Examiner’s helpful suggestion to remove the dependency from Claim 2, which was cancelled at an earlier date.

The rejection of Claim 10 is moot in view of its cancellation.

Claims 5, 6, 11 and 13 – 15 have been amended to provide proper antecedent basis and to eliminate the confusion with respect to the relative weight percentages of non-aromatic compound in the crude material versus the starting material.

Claims 11 – 15 are fully supported by the Specification as set forth below. Claim 11: page 9, lines 20 – 24; Claim 12: page 9, lines 1 – 2 and 6 – 7; Claim 13: page 9, line 11; Claim 14: page 11, line 11; and Claim 15: page 11, line 12. The Applicants accordingly respectfully submit that Claims 11 – 15 are completely supported by the Specification as originally filed.

With respect to Claim 16, that rejection is moot. However, the Applicants have amended Claim 1 to recite that the content of the non-aromatic compound is lowered by distillation. Support may be found at page 16, line 9.

In light of the foregoing, the Applicants respectfully request withdrawal of all of the §112, first paragraph rejections. Moreover, the Applicants respectfully request that all of the above amendments be entered into the Official File, irrespective of the “finality” of the rejection, inasmuch as the amendments reduce the number of claims at issue, address issues previously raised by the Examiner, require no new searching and do not raise new issues for consideration.

Turning now to the merits, the Applicants acknowledge the rejection of Claims 1, 3, 5, 6 and 10 – 16 under 35 U.S.C. §103 as being unpatentable over King. The rejection is moot as it applied to cancelled Claims 10 and 16.

In any event, King approaches the task of selectively catalytically converting C9 aromatic feedstocks containing ethyl-substituted aromatic components to a product containing large quantities of toluene and/or xylene by way of catalytic transalkylation/disproportionation using a palladium containing mordenite catalyst in the presence of added hydrogen and benzene in a manner completely different from the Applicants as recited in the solicited claims.

King uses a prepared C9 aromatic feedstock and reacts it with benzene to furnish substantial amounts of ring ethylene groups to convert at least some of the benzene to toluene or xylene under transalkylation conditions.

King discovered a particular catalyst to perform the transalkylation and disproportionation procedures. However, in all of the cases cited in King, a relatively pure starting material was assumed. Nowhere was there any suggestion of a starting material containing non-aromatic hydrocarbons in an amount of greater than 1% by weight. Further, nowhere is there any disclosure or suggestion of the step of reducing the amount of such materials prior to allowing contact of a refined starting material with the catalyst. Careful study King's Tables and Examples reveals that these starting materials appear to be synthetic feedstocks prepared for experimental use and not crude feedstocks as encountered in a refinery and as the original starting materials in the Applicants' case.

In any event, King utterly fails to teach or suggest lowering the content of the non-aromatic compound in the crude starting material to produce a refined starting material having a non-aromatic compound content having a value of 1% by weight or less by distillation. Careful scrutiny of the

entire King disclosure reveals that there is not a single word considering lowering the content of non-aromatic compound in the crude starting material to have a non-aromatic compound content having a value of 1% by weight or less in the refined starting material by distillation. King simply did not appreciate such a distillation step. As a consequence, the Applicants respectfully submit that King is non-enabling as effective prior art against Claim 1 as now amended. The Applicants respectfully submit that it could hardly be obvious to one of ordinary skill in the art to employ the step of lowering the amount of non-aromatic compounds in the crude starting material to produce a refined starting material having a non-aromatic compound content of a value of 1% by weight or less by distillation when King fails to disclose, teach, suggest or even hint at distillation. The Applicants, therefore, respectfully submit that King is inapplicable to all of the solicited claims. Withdrawal of the 35 U.S.C. §103 rejection based on King is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

  
T. Daniel Christenbury  
Reg. No. 31,750  
Attorney for Applicants

TDC:lh  
(215) 656-3381